OCCUPATIONAL INJURIES AND DISEASES IN ALBERTA

Lost-Time Claims, Disabling Injury Claims and Claim Rates

Young Workers

2005 to 2009

WORK SAFE ALBERTA

Summer 2010

Government of Alberta

TABLE OF CONTENTS

Highlights 2

1. Introduction 5

2. Young Workers Summary 7

3. Demographics of Injured Workers 10

4. Industry Sector Analysis 17

5. Injury and Disease Analysis 22

6. Occupational Fatalities 31

References 34

Appendix A: Terms, Definitions, and Formulas 35

Contact Information 39

HIGHLIGHTS

In 2009, both lost-time claims and disabling injury claims for young workers decreased from 2008.

- In 2009, the Workers' Compensation Board (WCB) – Alberta accepted 4,041 lost-time claims and 8,509 disabling injury claims from workers aged 15 to 24, a decrease of 27.2% and 33.8% from 2008.
- Young workers accounted for 15.5% of lost-time claims in 2009, 17.9% of the disabling injury claims and 15.9% of those in employment.
- By major industry sector, the Wholesale and Retail sector had the largest number of lost-time claims and disabling injury claims from young workers, followed by the Construction and Construction Trade Services sector.
- When taking into account the number of young workers in employment, every sector, except the Wholesale and Retail sector had an estimated disabling injury claim frequency higher than older workers.
- The Agriculture and Forestry sector had the highest estimated lost-time injury claim and disabling injury claim frequency for young workers, at 4.10 per 100 young workers and 6.93 per 100 young workers.
- In 2009, young workers employed in the trades helpers, construction, and transportation labourers and related occupations group accounted for the highest proportion of lost-time claims and disabling injury claims, 14.5% and 16.7%. They represented 4.5% of all young workers in employment.
- Sprains, strains and tears continued to be the leading nature of injury, accounting for 45.8% of the disabling injury claims submitted by young workers. However, young workers had a higher relative proportion for disabling injury claims for burns than the average for all workers, indicating a likelihood 1.8 times higher than the average for all workers.
- The back (including spine and spinal cord) was the most commonly injured body part, accounting for 21.3% of all disabling injury claims. Disabling injury claims connected with the fingers or fingernails however, displayed a relative proportion that was 1.6 times higher than the average for all workers. Injuries to the eyes also displayed relative proportion that was 1.5 times higher than the average for all workers.
- The primary sources of injury causing disabling injury claims were persons, plants, animals and minerals, accounting for 21.4% of all disabling injury claims, followed by parts and materials, 16.2%. Compared to the average for all sectors in the province however, the injury category hand tools - nonpowered displayed a relative proportion

that was 1.6 times higher than the average for all workers. Other persons, plants, animals and minerals displayed a relative proportion that was 1.5 times higher than the average for all workers.

- In 2009, the most common type of event or exposure was contact with objects and equipment, which accounted for 37.2% of disabling injury claims to young workers. Struck by object displayed a relative proportion of disabling injury claims that was 1.6 times higher than the average for all workers.
- In 2009, the median work days lost for young workers was five, the same as in 2008. This was lower than the median for all workers, seven days. The average days lost remained unchanged in 2009 at 15 days lost per claim, lower than the average for all workers, 24 days lost.
- In 2009, the WCB accepted seven occupational fatalities from young workers, representing 6.4% of all workplace fatalities accepted in Alberta.

Over the last five years...

- From 2005 to 2009, there were 30,699 lost-time claims from workers aged 15 to 24, accounting for 18.7% of lost-time claims from all workers.
- The WCB accepted 41 fatalities from workers aged 15 to 24 from 2005 to 2009. The Construction and Construction Trade services sector had the most with 19 fatalities. This was followed by the Transportation, Communication and Utilities sector with 7 fatalities.

A few notes about this report:

- This report presents 2009 data beside 2008 data to help with comparisons. Additional historical data are presented where possible.
- Information presented in this report is based on incidents that occurred during 2009 and accepted as lost-time or modified work claims by WCB as of March 31, 2010.
- Injury claim rates based on a small number of person-years worked are too volatile to make valid comparisons over time. Therefore, claim rates are not calculated when there are fewer than 40 person-years worked. Duration rates are also volatile when based on a small number of lost-time claims. Duration rates are not calculated when there are fewer than 30 lost-time claims.
- Estimates of year-over-year change for rates presented in this report are calculated using unrounded figures and may not match those produced from rounded figures. Percentages displayed in tables may also not total 100, due to rounding.
- Throughout the report, the lost-time claim rate is the number of lost-time claims per 100 person-years worked, the disabling injury rate is the number of disabling injury claims per 100 person-years worked and the duration rate is the number of days lost per 100 person-years worked. Fatality rates are expressed as the number of fatalities per million person-years worked.
- Analyses by industry are based on WCB industry classification and aggregation. For more information see https://ds.wcb.ab.ca/WCB.RateManual.WebServer/alphaindex.aspx.
- Analyses by occupation group are based on the National Occupational Classification (NOC). The NOC provides a standard list of occupations across the country. For more information see http://www5.hrsdc.gc.ca/NOC.
- Occupational injuries and diseases listed throughout this report are based on the Z795 Coding of Work Injury or Disease Information produced by the Canadian Standards Association (CSA) for categorizing occupational injury and disease. For more information see http://www.shopcsa.ca/onlinestore/GetCatalogItemDetails.asp?mat=2416404.
- Terms, definitions and formulas used throughout this report are described in Appendix A.

INTRODUCTION

Role of the Ministry of Employment and Immigration

The Ministry of Employment and Immigration includes the reporting entity of the Department of Employment and Immigration (E&I). E&I develops and delivers policies, programs and services to foster labour force development; ensure fair, safe and healthy workplaces; and help those in need. The Department also provides leadership for immigration and interprovincial labour mobility policy for the Government of Alberta, and coordinates resources to support the settlement and integration of new Albertans.

Occupational Injuries and Diseases in Alberta – Young Workers 2005 to 2009

The Department of Employment and Immigration (E&I) prepares this annual report to provide analysis of workplace health and safety to meet the demand from industry and safety associations, labour organizations, employers and workers for incorporating this information into their strategic plans for enhancing workplace health and safety. This includes:

- descriptions of programs and initiatives undertaken in pursuit of its workplace health and safety mission and goals;
- analysis of provincial occupational injury and disease information;
- estimations of the risk of injury or disease at the provincial, industry sector and sub-sector level as well as general descriptions about the incidents and injured workers.

The *Occupational Injuries and Diseases in Alberta* publications present analysis of aggregate injury claim data to allow for the tracking of workplace health and safety performance over time. This is important for evaluating past and present performance, and in providing strategic information for the direction of workplace health and safety policy. The analysis contained in this report provides a comprehensive picture of workplace injuries in the province, allowing for a prevention focus to be made based on injury probabilities, rather than possibilities.

Healthy and Productive Workplaces

E&I promotes safe, healthy and productive workplaces, as well as fair, equitable and stable labour relations to ensure a fair, safe and healthy work environment for Alberta's workers.

Work is central to people's lives, to the stability of families and societies. People want work that provides them with an acceptable standard of living. It is important that workers enter an environment where their health and safety is protected, where they are treated with respect and they are compensated fairly for the job they are doing. This results in an attractive workplace that furthers the position of Alberta employers to be competitive in the global economy (see Note 1.1). Alongside the human cost of occupational injuries and diseases and the impact on families and society, the economic costs are numerous.

Note 1.1
Research by the International Institute for Management Development and the World Economic Forum suggests that the safest-working countries also have the best competitiveness ratings ***(ILO, XVIIth World Congress on Safety and Health at Work, Introductory Report: Decent Work-Safe Work, September 2005).***

Claim costs for occupational injury and disease by WCB are projected to total $700 million in 2010.[1] These costs are ultimately paid by employers through premium payments, and impact the costs of running a business as well as the final cost of delivering products and services. Further costs associated with occupational injuries and diseases include the material damage to equipment and premises, the additional cost of hiring staff to cover for injured workers, and the lost productivity resulting from the absence. Additional impacts of poor health and safety for employers include higher absenteeism and the lower morale of employees, loss of skilled experienced employees, loss of the company's investment in training, and difficulty recruiting high-quality employees due to the loss of image (particularly in the case of subcontractors to larger companies) all leading to losses in productivity and underutilization of production (see Note 1.2).

Note 1.2
The International Labour Organization (ILO) estimates that approximately 4% of Gross Domestic Product is lost due to occupational injuries and diseases (*ILO, World Day for Safety and Health at Work 2009 –Facts on safety and health at work issues, April 2009).*

Other costs borne by the economy and society due in part to work-related injuries and diseases include early retirements, unemployment and poorer households. The International Labour Organization (ILO) estimates that in high-income countries, around 40% of all retirements (before statutory age) are caused by disability. This is equivalent to around 14% of the lifetime working capacity of the employed labour force.[2] Occupational injuries and diseases also affect unemployment and household income levels. Workers with an impairment of capacity can reduce their re-employability and impact household income. Workplace injuries and diseases typically reduce the overall earnings of households and in certain cases, family members have to give up jobs in order to care for an injured worker.

[1] See the Workers Compensation Board Alberta 2010 Premium Rate Manual
https://www.wcb.ab.ca/pdfs/employers/10_premium_rate_manual.pdf
[2] See the International Labour Organization report: Safety in numbers – pointers for a global safety culture at work
http://www.ilo.org/public/english/region/eurpro/budapest/download/safety_in_numbers_engl.pdf

YOUNG WORKERS SUMMARY

In 2009, the Workers' Compensation Board (WCB) – Alberta accepted 4,041 lost-time claims and 8,509 disabling injury claims from young workers.

In 2009, the Workers' Compensation Board (WCB) – Alberta accepted 4,041 lost-time claims and 8,509 disabling injury claims from young workers (those aged 15 to 24), a decrease of 27.2% and 33.8% from 2008. Claims from young workers accounted for 15.5% of all lost-time claims submitted and 17.9% of all disabling injury claims. The amount of days lost and transaction claim costs represented 10.2% and 9.7% of the totals respectively.

A lost-time claim is a claim submitted to the WCB for an occupational injury or disease that causes a worker to have time away from work beyond the day of injury. Included are claims receiving reimbursement of full or partial lost wages due to occupational illness or injury, or payment for permanent loss of function (for example, hearing loss).

Table 2.1
Provincial and Young Workers Injury Figures – Alberta: 2009

	All Workers	Young Workers	% of Young Worker Claims
Lost-time claims	**26,096**	**4,041**	**15.5%**
Modified-work claims	34,818	6,378	18.3%
Lost-time claims involving modified-work	13,409	1,910	14.2%
Disabling injury claims	**47,505**	**8,509**	**17.9%**
Days lost (LTC)	614,757	62,623	10.2%
Transaction claim costs (LTC)	$195,089,312	$18,924,759	9.7%

Data Source: WCB Data, Prepared by Data Development and Evaluation

A modified work claim is submitted for an occupational injury or disease where workers have their normal work duties altered enabling them to remain working without losing time from work. Included in the figures are claims where injured workers are helped back into the workplace with modified duties after time lost due to injury or disease, and cases where workers were provided modified duties prior to time lost because of an injury or disease.

Modifying an injured worker's duties can be beneficial for both an employer and an employee. For the employer, the financial cost of an absent worker can be high and returning an injured employee to work as soon as it is medically possible is important for properly managing compensation, disability claims and productivity levels. For the employee, returning to work as soon as medically possible is beneficial both physically and psychologically, and is linked to quicker recovery rates and promotion of self-esteem. Long

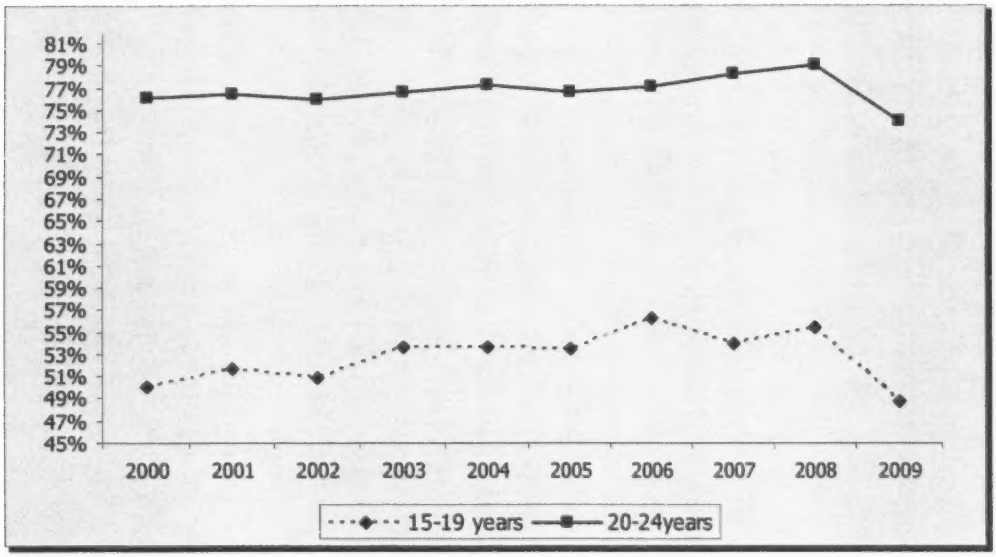
absences from the workplace are also linked to decreases in labour market attachment.

The number of disabling injury claims combines both the lost-time and modified work concepts and produces an overall figure where an occupational injury or disease disables a worker causing either time lost from work or for their normal work duties to be modified.

In 2009, Alberta had the second highest proportion of young workers in its working age population of all provinces in Canada. It also had the highest participation rate and the third lowest unemployment rate for young workers[3].

The employment rate for workers aged 15 to 24 decreased from 68.0% in 2008, to 62.4% in 2009, a result of decreasing rates for both workers aged 15 to 19 and workers aged 20 to 24 (see Chart 2.1).

Chart 2.1
Employment Rates for Young Workers - Alberta: 2000 - 2009



Statistics Canada's Labour Force Survey (2009 Historical Review)

Over the last ten years, young people aged 15 to 19 comprised approximately 50% of the population aged 15 to 24, and approximately 40% of those in employment. The number of people 15 to 19 years old in employment increased by 5.0% between 2000 and 2009. The population increased by 7.6%. Workers aged 20 to 24 displayed an increase of 22.1% in employment between 2000 and 2009, compared to a population increase of 25.5%.

Young workers are usually active in the education system and have lower education attainment and a higher likelihood of participating in part-time employment than workers of other ages. A third of young workers were employed in part-time positions, 36.6%, compared to 17.9% for all workers. In 2009, 32.0% of young workers were high school

[3] Statistics Canada Labour Force Survey (2009 Historical Review). For more information on young workers in the labour market, see Alberta Labour Force Profiles http://www.employment.alberta.ca/BI/2660.html

graduates, and 17.9% had completed post-secondary education. For all workers, 22.5% of those employed were high school graduates and 31.8% of Alberta's working population had completed post-secondary levels of education.

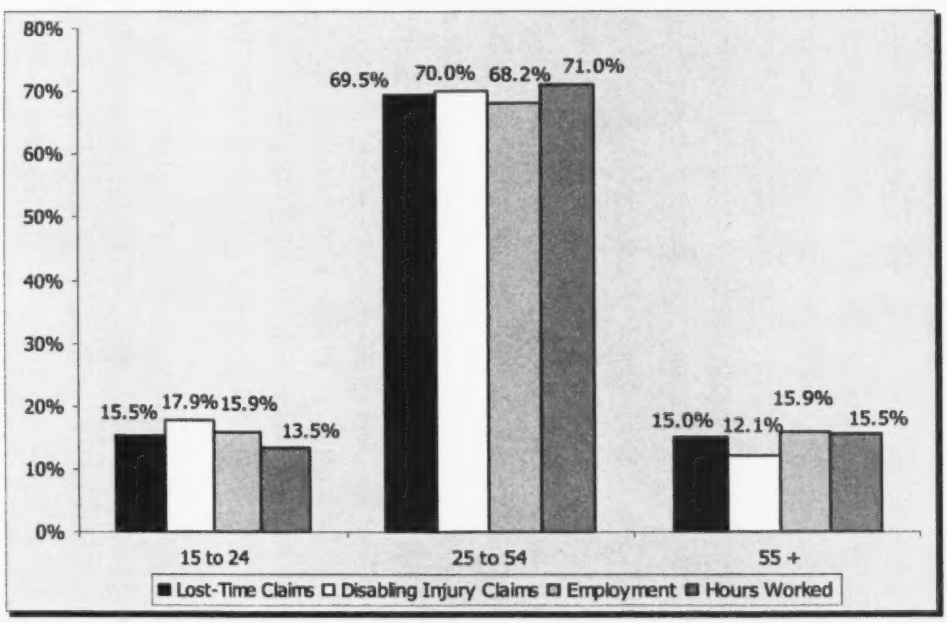
DEMOGRAPHICS OF INJURED WORKERS

In 2009, young workers represented 15.9% of those employed in Alberta and accounted for 15.5% of lost-time claims and 17.9% of disabling injury claims.

Compared to older workers, young workers display a higher likelihood of getting injured. In 2009, young workers accounted for 15.9% of those employed in Alberta and accounted for 15.5% of the total lost-time claims and 17.9% of disabling injury claims. In contrast, workers aged 55 and older represented 15.9% of those employed, 15.0% of the total lost-time claims and 12.1% of disabling injury claims (see Chart 3.1).

Chart 3.1

Proportion of Injury Claims, Employment and Hours Worked by Selected Age Groups – Alberta: 2009



Data Source: WCB Data, Prepared by Data Development and Evaluation, Statistics Canada's Labour Force Survey (2009 Historical Review)

Young workers also accounted for 13.5% of the total actual hours worked in the province. Looking at actual hours worked can be a better indicator of the exposure to workplace hazards for more marginal groups in employment, due to differing levels of part-time employment in various industries. It indicates an even higher likelihood of injury for young workers compared to other age groups than employment counts would suggest.

In 2009, there were 1,075 lost-time claims and 2,210 disabling injury claims from young workers aged 15 to 19 (see Table 3.1). This was a decrease from 2008 by 35.8% and 40.9%.

For workers aged 20 to 24, the number of lost-time claims decreased by 23.5% to 2,966 in 2009. The number of disabling injury claims decreased by 30.9% to 6,299.

Estimates of injury and disease severity are calculated using information on the number of days lost from work. In 2009, the median days lost due to injuries or diseases for young workers was five days, two days fewer than the provincial median days lost of seven. The average days lost remained unchanged in 2009, at 15 days lost per claim, lower than the average for all workers, 24 days lost.

Note 3.1
In a national study completed by the Institute for Work and Health (IWH) young workers were often found to accept workplace injuries as "part of the job" because they were frequent and minor. They determined that this perspective is, for the most part, the result of young workers' perceived inability to improve or alter their working conditions.

"Rather than seeing young workers as having faulty or distorted perceptions of risk, we suggest that, by virtue of their subordinate position young workers have little choice but to *accept* certain injuries as part of the job"
(Breslin et al., 2007).

Table 3.1

Proportion of Lost-Time Claims and Disabling Injury Claims by Age Group – Alberta: 2008 to 2009

Age	2008				2009			
	Lost-Time Claims	%	Disabling Injury Claims	%	Lost-Time Claims	%	Disabling Injury Claims	%
Under 15 Years	21	0.1%	36	0.1%	9	<0.1%	14	<0.1%
15 - 19 Years	1,675	5.3%	3,738	6.2%	1,075	4.1%	2,210	4.7%
20 - 24 Years	3,875	12.3%	9,117	15.0%	2,966	11.4%	6,299	13.3%
25 - 34 Years	7,125	22.7%	15,539	25.6%	5,980	22.9%	12,342	26.0%
35 - 44 Years	7,145	22.7%	13,436	22.1%	5,740	22.0%	10,414	21.9%
45 - 54 Years	7,296	23.2%	12,421	20.5%	6,414	24.6%	10,493	22.1%
55+ Years	4,273	13.6%	6,405	10.6%	3,912	15.0%	5,733	12.1%
Unspecified	0	N/A	0	N/A	0	N/A	0	N/A
Total	31,410	100.0%	60,692	100.0%	26,096	100.0%	47,505	100.0%

Data Source: WCB Data, Prepared by Data Development and Evaluation

From 2005 to 2009, there were 30,699 lost-time claims from young workers aged 15 to 24. Workers aged 20 to 24 accounted for 70.0% of those lost-time claims. Workers aged 15 to 19 years accounted for 30.0%.

Gender

More claims from young workers were from men than women. In 2009, 67.2% of lost-time claims and 73.4% of disabling injury claims from young workers involved men, who accounted for 52.0% of those in employment in this age group. In contrast, women accounted for 32.8% of lost-time claims, 26.4% of disabling injury claims and 48.0% of those in employment (see Chart 3.2). For workers of all ages, men accounted for 64.1% of lost-time claims, 70.6% of disabling injury claims and 54.6% of those in employment, while women accounted for 45.4% of those in employment, 35.9% of the lost-time claims and 29.4% of the disabling injury claims.

Note 3.2
Focus group research completed by the IWH found that employers and workers responded differently to injuries and conditions on the workplace relative to their gender.

Researchers found women in their study often found their complaints "delegitimized", or dismissed, by their employers. In contrast, the IWH found men "stifled", or muted, their injuries in order to advance their positions at work (Breslin et al., 2006).

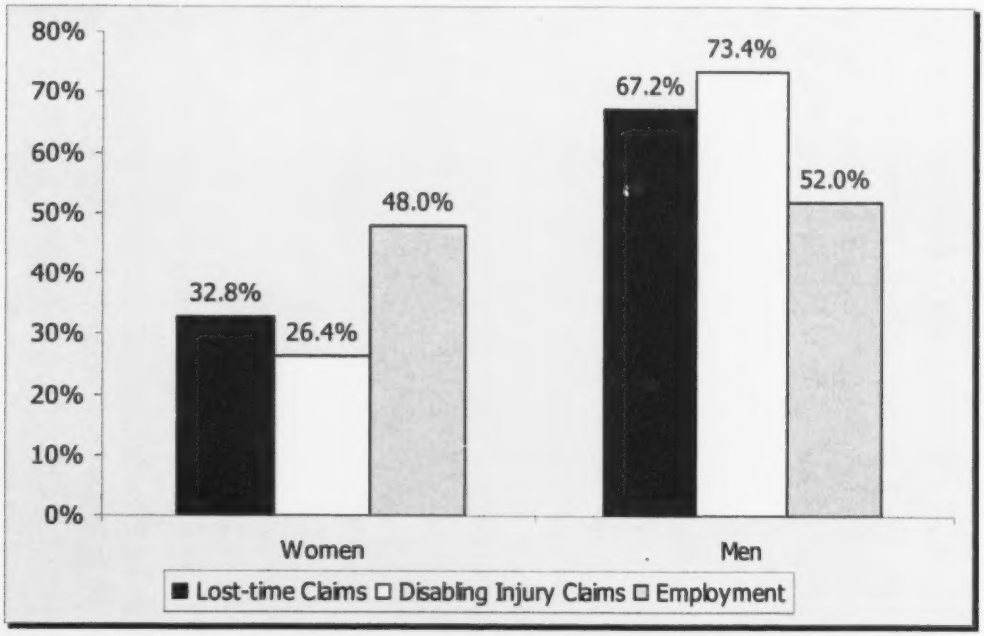
There is a greater difference in injuries across genders in young workers than there is with workers of all ages. This is likely the result of the different types of work women and men perform and the gender delineated attitudes and roles they bring to the workplace (see Notes 3.1 and 3.2).

Table 3.2
Lost-Time Claims and Disabling Injury Claims by Gender - Young Workers, Alberta: 2008 to 2009

Gender	2008				2009			
	Lost-Time Claims	%	Disabling Injury Claims	%	Lost-Time Claims	%	Disabling Injury Claims	%
Women	1,601	28.8%	3,031	23.8%	1,326	32.8%	2,243	26.4%
Men	3,949	71.2%	9,720	76.2%	2,715	67.2%	6,244	73.4%
Unspecified*	0	N/A	104	N/A	0	N/A	22	N/A
Total	5,550	100.0%	12,855	100.0%	4,041	100.0%	8,509	100.0%

* Claims with no specified gender have been removed from the proportions.
Data Source: WCB Data, Prepared by Data Development and Evaluation; Statistics Canada's Labour Force Survey (2009 Historical Review)

Chart 3.2
Lost-Time Claims and Disabling Injury Claims by Gender - Young Workers, Alberta: 2009



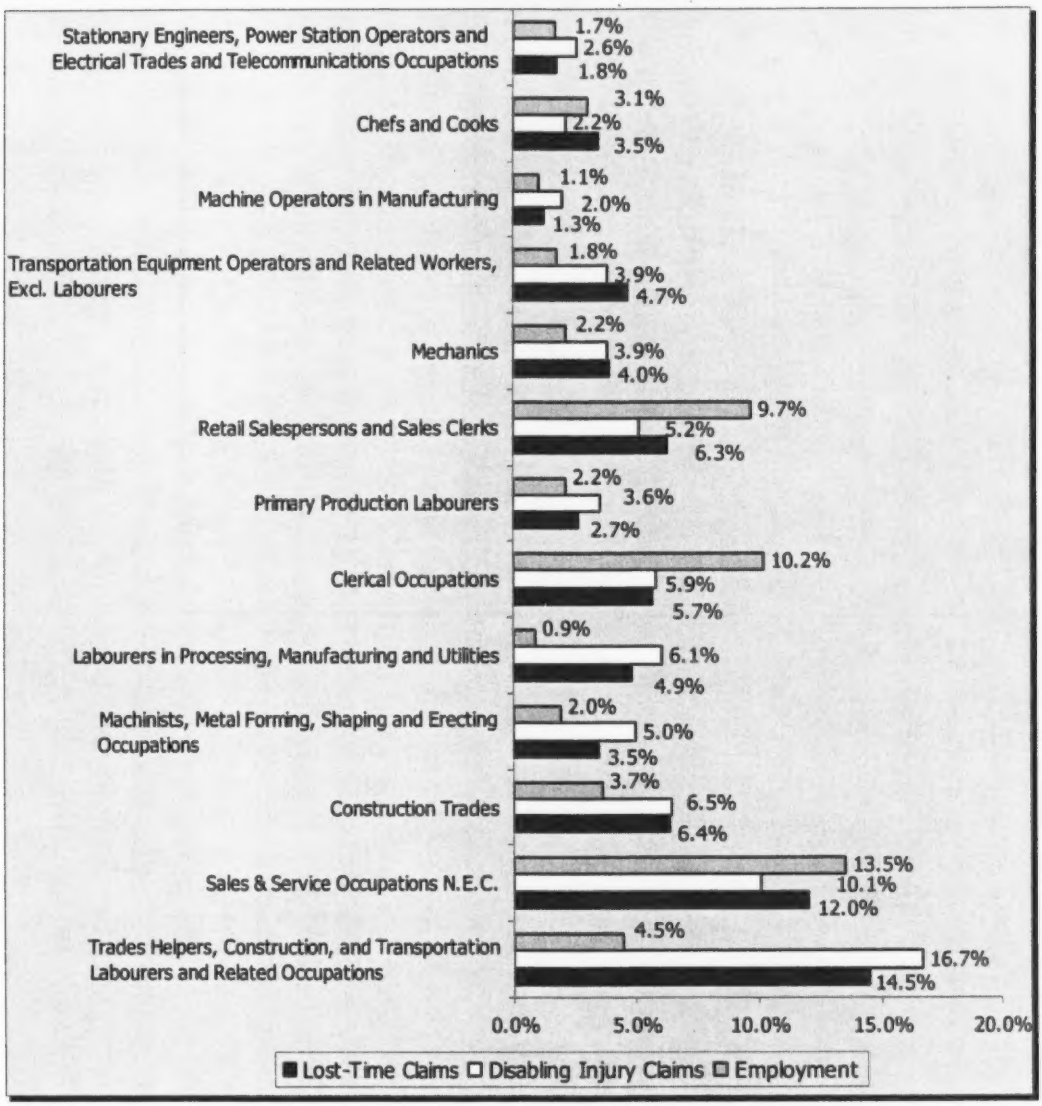
Data Source: WCB Data, Prepared by Data Development and Evaluation; Statistics Canada's Labour Force Survey (2009 Historical Review)

Occupation

In 2009, young workers employed in the trades helpers, construction, and transportation labourers and related occupations group[4] submitted the highest proportion of lost-time claims and disabling injury claims, 14.5% and 16.7% respectively. They also represented 4.5% of all young workers in employment[5]. In contrast, 13.5% of workers were employed in the sales and service occupations group, yet they accounted for 12.0% of lost-time claims and 10.1% of disabling injury claims (see Chart 3.3).

[4] Occupations were coded following the National Occupational Classification for Statistics. See page 4 for further information.
[5] Statistics Canada Labour Force Survey (2009 Historical Review).

Chart 3.3
Lost-Time Claims, Disabling Injury Claims and Employment by Selected Occupation Groups - Young Workers, Alberta: 2009



Data Source: WCB Data; Statistics Canada, Labour Force Survey (Microdata Files), Prepared by Data Development and Evaluation.

Disabling Injury Claims by Month of Injury

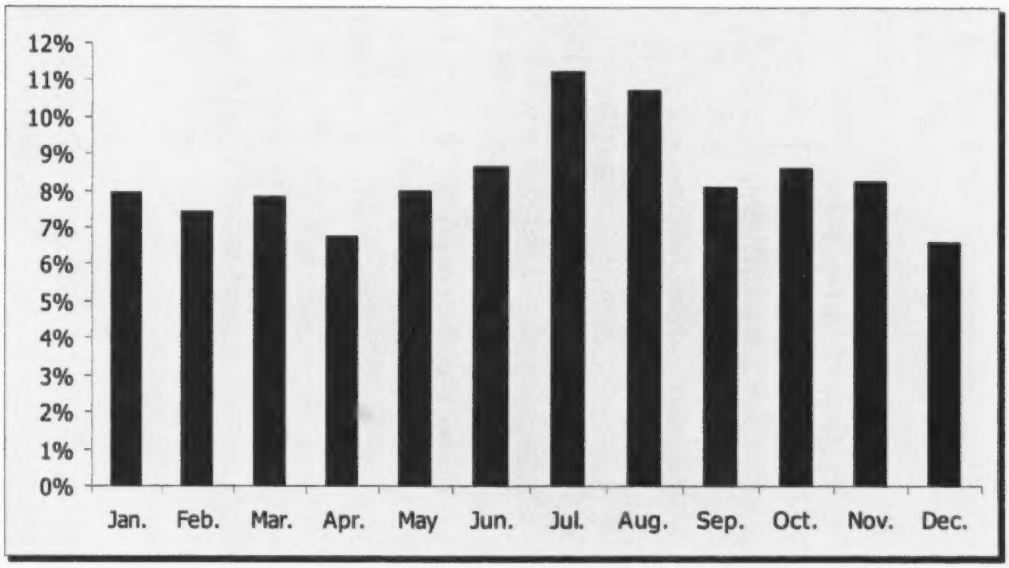
Lost-time claims from workers aged 15 to 24 displayed an increase in the number of injuries occurring to young workers during the summer months.

The number of lost-time claims submitted by workers aged 15 to 19 is greater in the summer months, with July and August accounting for 11.2% and 10.7% respectively of the total lost-time claims from this age group from 2005 to 2009. For workers aged 20 to 24, lost-time claims for July and August accounted for 9.4% and 9.0% respectively of the lost-time claims from 2005 to 2009 (see Charts 3.4a and 3.4b). A partial explanation for this is the increased proportion of young workers aged 15 to 19 employed during the summer months. In 2009, young workers accounted for 17.3% and 16.8% of total employment in July and August respectively, while young workers average 15.9% of total employment[6] in 2009. Workers aged 25 years and over do not share this trend in employment or claims.

Chart 3.4a

Proportion of Disabling Injury Claims by Month of Injury - Young Workers, Alberta: 2005 - 2009

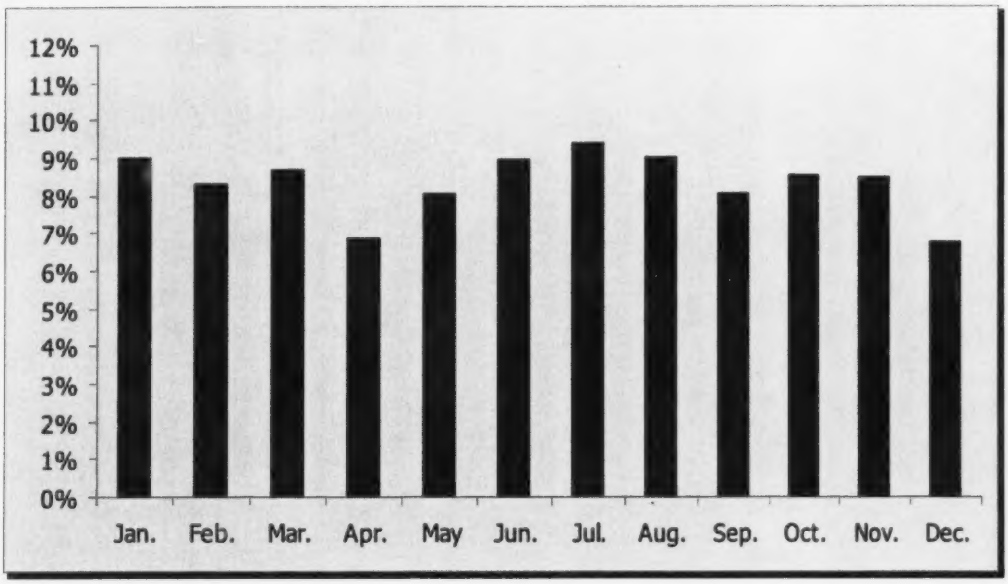
15 to 19 Years:



Data Source: WCB Data, Prepared by Data Development and Evaluation

[6] Data source: Statistics Canada's Labour Force Survey (2009 Historical Review).

Chart 3.4b
Proportion of Disabling Injury Claims by Month of Injury - Young Workers, Alberta: 2005 - 2009
20 to 24 Years:



Data Source: WCB Data, Prepared by Data Development and Evaluation

INDUSTRY SECTOR ANALYSIS

In 2009, four major industry sectors accounted for 81.4% of the lost-time claims from young workers.

Major Industry Sector Analysis

In 2009, there were 1,129 lost-time claims from young workers in the Wholesale and Retail sector (see Table 4.1), representing 27.9% of all lost-time claims. This was followed by 859 in the Construction and Construction Trade Services sector, 687 in the Business, Personal and Professional Services sector, and 614 in the Public Administration, Education and Health Services sector. These sectors accounted for 21.3%, 17.0% and 15.2% of all lost-time claims from young workers respectively.

Table 4.1
Lost-Time Claims and Disabling Injury Claims by Major Industry Sector - Young Workers, Alberta: 2009

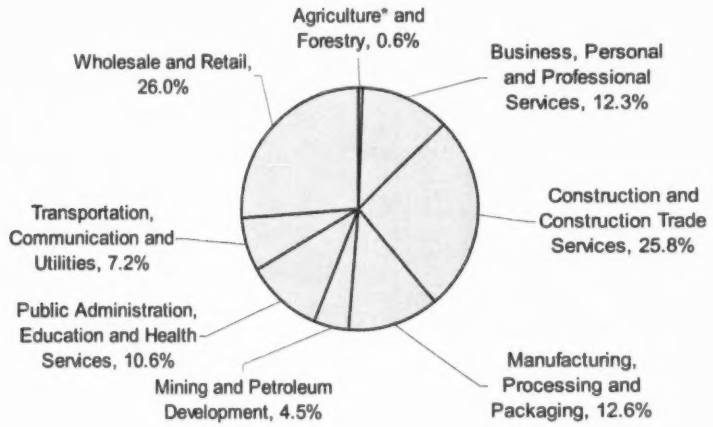
Major Industry Sector	15-19 Years		20-24 Years		Total (15-24 Years)	
	Lost-Time Claims	Disabling Injury Claims	Lost-Time Claims	Disabling Injury Claims	Lost-Time Claims	Disabling Injury Claims
Agriculture* and Forestry	7	9	22	40	**29**	**49**
Business, Personal and Professional Services	236	336	451	709	**687**	**1,045**
Construction and Construction Trade Services	183	448	676	1,749	**859**	**2,197**
Manufacturing, Processing and Packaging	91	239	278	835	**369**	**1,074**
Mining and Petroleum Development	6	44	61	337	**67**	**381**
Public Administration, Education and Health Services	114	181	500	719	**614**	**900**
Transportation, Communication and Utilities	52	131	229	481	**281**	**612**
Wholesale and Retail	386	816	743	1,400	**1,129**	**2,216**
Unspecified	0	6	6	29	**6**	**35**
All Industries	**1,075**	**2,210**	**2,966**	**6,299**	**4,041**	**8,509**

*Agriculture in Alberta is largely exempt from mandatory WCB coverage. See note 4.1
Data Source: WCB Data, Prepared by Data Development and Evaluation

For disabling injury claims a similar pattern exists. Four major industry sectors accounted for 76.8% of the disabling injury claims from young workers. The Wholesale and Retail sector had the largest number of disabling injury claims with 2,216 or 26.0%, followed by the Construction and Construction Trade Services sector, 2,197, the Manufacturing, Processing and Packaging sector, 1,074, and the Business, Personal and Professional Services sector with 1,045 disabling injury claims from young workers (see Table 4.1).

These three sectors accounted for 25.8%, 12.6%, and 12.3% of young workers' disabling injury claims respectively (see Chart 4.1).

Chart 4.1
Disabling Injury Claims by Industry Sector for Young Workers - Alberta: 2009


Agriculture* and Forestry, 0.6%
Business, Personal and Professional Services, 12.3%
Construction and Construction Trade Services, 25.8%
Manufacturing, Processing and Packaging, 12.6%
Mining and Petroleum Development, 4.5%
Public Administration, Education and Health Services, 10.6%
Transportation, Communication and Utilities, 7.2%
Wholesale and Retail, 26.0%

* Agriculture in Alberta is largely exempt from mandatory WCB coverage. See note 4.1
Data Source: WCB Data, Prepared by Data Development and Evaluation

The number of workers (or person-years worked estimates) calculated in the *Occupational Injuries and Diseases in Alberta Summary* and industry sector reports allow for an analysis of the number of claims to be made with the number of workers in an industry, and are useful for looking at the frequency of injury claims. Person-years worked estimates rely on financial information provided by employers to WCB (see Appendix A). As such, lost-time claims and disabling injury rates can only be produced at an industry level, and not for particular worker demographics, like age.

Note 4.1
Agriculture in Alberta is largely exempt from mandatory WCB coverage and figures are based on WCB covered employers.

The Alberta Associates of Safe Rural Environments reported 532 incidents on farm sites requiring medical attention in 2009. Of these, 15% were inflicted on persons under the age of 18 *(FAMS: 2009 Farm Injury Report, 2010).*

The Labour Force Survey however, does allow for employment information to be broken down by age, and can be applied to the injury claim data. Differences in coverage and industry classifications exist between the Labour Force Survey and the WCB industry classification, although it is useful for highlighting sectors where the data indicates a higher proportion or frequency of injury.

Table 4.2 presents the proportion of WCB lost-time and disabling injury claims from young workers compared to the proportion of young workers employed in each industry

sector[7]. In most sectors, young workers had higher proportions of lost-time claims and disabling injury claims than the proportion they represented in employment. The Business, Personal and Professional Services sector displayed the largest difference between proportion in employment and proportions of injury claims. Young workers accounted for 22.4% of lost-time claims, 23.5% of disabling injury claims and 19.2% of those in employment in 2009. Young workers in the Transportation, Communication and Utilities sector accounted for 9.8% of lost-time claims, 13.2% of disabling injury claims and 8.2% of those in employment. In contrast, young workers in the Wholesale and Retail sector accounted for 20.6% of lost-time claims and 23.6% of disabling injury claims, lower than their 26.6% proportion of employment.

Table 4.2
Proportion of Lost-Time Claims, Disabling Injury Claims and Employment by Major Industry Sector – Young Workers (15-24 years), Alberta: 2009

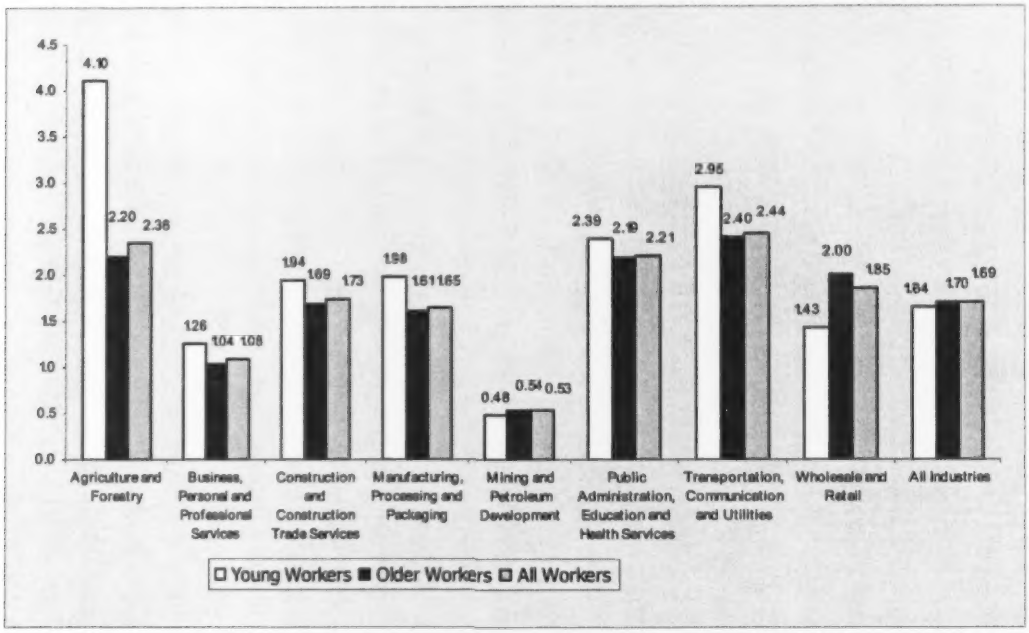
Major Industry Sector	Lost-Time Claims	Disabling Injury Claims	Employment
Agriculture and Forestry	14.4%	19.0%	8.3%
Business, Personal and Professional Services	22.4%	23.5%	19.2%
Construction and Construction Trade Services	18.2%	20.6%	16.3%
Manufacturing, Processing and Packaging	13.3%	14.5%	11.1%
Mining and Petroleum Development	12.0%	17.9%	13.2%
Public Administration, Education and Health Services	9.6%	10.7%	8.8%
Transportation, Communication and Utilities	9.8%	13.2%	8.2%
Wholesale and Retail	20.6%	23.6%	26.6%
All Industries	**15.5%**	**17.9%**	**15.9%**

Data Source: WCB Data, Statistics Canada's Labour Force Survey (2009 Historical Review), Prepared by Data Development and Evaluation

Charts 4.2 and 4.3 apply the proportion of young workers in employment for each major sector, to the WCB person-years worked figures, allowing for an estimation of injury frequency for young workers compared to other workers in a sector. Looking at the proportions in employment alongside injury claims, and estimating injury claim frequency rates shows that although the Wholesale and Retail Sector had the highest number of lost-time claims and disabling injury claims, the frequency of injury is lower than in many sectors.

[7] The Labour Force Survey uses a different industry classification to WCB, although there are similarities in structure. Proportions (of totals) have been used to evaluate information generated from both sources. See Appendix A for further information.

Chart 4.2
Estimated* Lost-Time Injury Frequencies for Young Workers – Alberta 2009

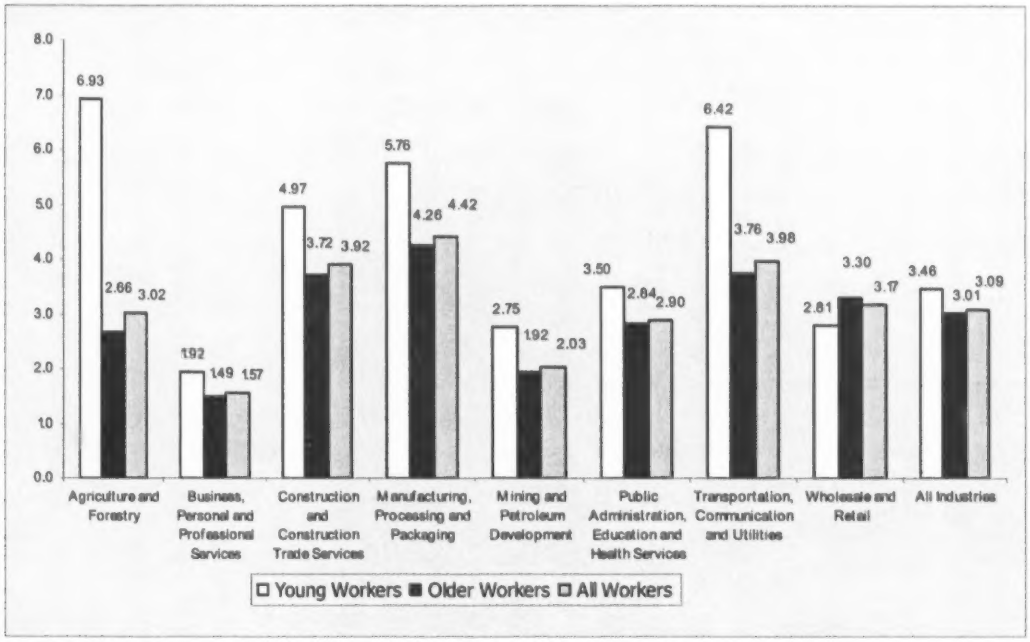


*Lost-time injury frequencies for young workers (those under 25 years) and older workers (those aged 25 and over) are calculated by applying the number of injury claims from young workers to a proportion of WCB person-years worked figures. The proportion is determined using information available from the Labour Force Survey on young workers employed in a particular industry sector.
Data Source: Statistics Canada's Labour Force Survey (2009 Historical Review), Prepared by Data Development and Evaluation.

The Agriculture and Forestry sector had the highest estimated lost-time injury claim frequency at 4.10 per 100 young workers, compared to 2.20 per 100 older workers. This was followed by the Transportation, Communication and Utilities at 2.95 per 100 young workers, compared to 2.40 per 100 older workers (see Chart 4.2).

Disabling injury claim frequencies for young workers followed a similar trend. All sectors except the Wholesale and Retail sector had higher disabling injury claim frequencies for young workers than for older workers. The Agriculture and Forestry sector had the highest estimated disabling injury claim frequency for young workers, 6.93 per 100 young workers compared to 2.66 per 100 older workers. The Transportation, Communication and Utilities sector had an estimated frequency of 6.42 per 100 young workers, compared to 3.76 per 100 older workers (see Chart 4.3).

Chart 4.3
Estimated* Disabling Injury Frequencies for Young Workers – Alberta 2009



*Disabling injury frequencies for young workers (those under 25 years) and older workers (those aged 25 and over) are calculated by applying the number of injury claims from young workers to a proportion of WCB person-years (worker) figures. The proportion is determined using information available from the Labour Force Survey on young workers employed in a particular industry sector.
Data Source: WCB Data, Statistics Canada's Labour Force Survey (2009 Historical Review), Prepared by Data Development and Evaluation.

INJURY AND DISEASE ANALYSIS

Contact with objects and equipment was the most common cause for lost-time claims and disabling injury claims. Sprains, strains and tears continued to be the leading nature of injury with the trunk the most commonly injured body part.

Nature of Injury or Disease

Nature of injury is used to identify the physical characteristics of the injury or disease. In 2009, for workers of all ages[8], 93.5% of all the lost-time and 94.8% of disabling injury claims were traumatic injuries and disorders.

Note 5.1
Throughout this section, the classifications used are based on the Canadian Standards Association (CSA) standards for categorizing occupational injury and disease information.

For young workers, 95.4% of lost-time claims and 96.8% of disabling injury claims were caused by traumatic injuries and disorders. For lost-time claims, the four most common traumatic injuries and disorders were sprains, strains and tears, 43.0%, open wounds, 12.9%, surface wounds and bruises, 12.9%, and fractures and dislocations, 9.7% (see Table 5.1).

Compared to the average for all workers in the province, young workers had higher relative proportions[9] of lost-time claims and disabling injury claims than the average for all workers in most injury categories. Lost-time claims and disabling injury claims for burns had the highest relative proportions, at 1.9 and 1.8 times higher than the average for all workers. Open wounds had relative proportions 1.6 times higher for both lost-time claims and disabling injury claims. This was followed by surface wounds and bruises at 1.1 and 1.3 times higher than the average for all workers respectively.

Note 5.2
The CSA standard is designed so that Nature of Injury and Part of Body categories are directly linked when classifying injuries. This is also true for the relationship between the Source of Injury and Type of Event categories.

[8] See the *Occupational Injuries and Diseases in Alberta 2009 Summary*.

[9] The relative proportion or number of times higher or lower compares the young workers' estimated lost-time injury claim frequency and estimated disabling injury claim frequency and proportion of injuries by each injury type, against the average claim rate and injury proportion for all workers in the province. A value equal to 1 indicates an equal probability or likelihood to the average. A value higher than 1 indicates an increased likelihood of this type of injury occurring, and a value less than one indicates a lower likelihood. See Appendix A for calculation details.

Table 5.1
Nature of Injury or Disease - Young Workers, Alberta: 2009

Nature of Injury	Lost-Time Claims	%	Disabling Injury Claims	%
Traumatic Injuries and Disorders	**3,857**	**95.4%**	**8,235**	**96.8%**
Sprains, Strains and Tears	1,738	**43.0%**	3,897	**45.8%**
Open Wounds	520	**12.9%**	1,203	**14.1%**
Surface Wounds and Bruises	520	**12.9%**	1,243	**14.6%**
Fractures and Dislocations	392	**9.7%**	638	**7.5%**
Burns	167	**4.1%**	258	**3.0%**
Other Traumatic Injuries and Disorders	520	**12.9%**	996	**11.7%**
Systemic Diseases and Disorders	**137**	**3.4%**	**213**	**2.5%**
Infectious and Parasitic Disorders	**17**	**0.4%**	**17**	**0.2%**
Symptoms, Signs and Ill-Defined Conditions	**16**	**0.4%**	**22**	**0.3%**
Other Diseases, Conditions and Disorders	**12**	**0.3%**	**13**	**0.2%**
Nature of Injury - Unknown	**2**	**<0.1%**	**9**	**0.1%**
Total	**4,041**	**100.0%**	**8,509**	**100.0%**

Data Source: WCB Data, Prepared by Data Development and Evaluation

Part of Body Injured

For workers of all ages[10], injuries to the trunk accounted for 38.2% of lost-time claims and 36.9% of disabling injury claims in 2009. For young workers, 32.4% of lost-time claims and 32.3% of disabling injury claims were due to injuries to the trunk. This was followed by upper extremities at 27.0% and 32.9% respectively.

In 2009, injuries to the fingers and fingernails had the highest relative proportions[11] of lost-time claims and disabling injury claims for young workers than the average for all workers, 1.5 and 1.6 times higher respectively. Injuries to the eyes displayed relative proportions that were 1.4 and 1.5 times higher for lost-time claims and disabling injury claims. This was followed by injuries to the wrists and hands except fingers, 1.3 and 1.4 times higher than the average for all workers respectively.

[10] See the *Occupational Injuries and Diseases in Alberta 2009 Summary*.

[11] The relative proportion or number of times higher or lower compares the young workers' estimated lost-time injury claim frequency and estimated disabling injury claim frequency and proportion of injuries by each injury type, against the average claim rate and injury proportion for all workers in the province. A value equal to 1 indicates an equal probability or likelihood to the average. A value higher than 1 indicates an increased likelihood of this type of injury occurring, and a value less than one indicates a lower likelihood. See Appendix A for calculation details.

Table 5.2
Part of Body Injured - Young Workers, Alberta: 2009

Part of Body Injured	Lost-Time Claims	%	Disabling Injury Claims	%
Trunk	**1,310**	**32.4%**	**2,747**	**32.3%**
Back, Including Spine, Spinal Cord	888	22.0%	1,810	21.3%
Other Trunk	422	10.4%	937	11.0%
Upper Extremities	**1,092**	**27.0%**	**2,798**	**32.9%**
Finger(s), Fingernail(s)	429	10.6%	1,225	14.4%
Wrist(s) and Hand(s) Except Finger(s)	446	11.0%	1,088	12.8%
Other Upper Extremities	217	5.4%	485	5.7%
Lower Extremities	**920**	**22.8%**	**1,792**	**21.1%**
Ankle(s) and Foot (Feet) Except Toes	474	11.7%	956	11.2%
Leg(s)	388	9.6%	749	8.8%
Other Lower Extremities	58	1.4%	87	1.0%
Head	**366**	**9.1%**	**622**	**7.3%**
Other Head Parts	220	5.4%	349	4.1%
Eye(s)	146	3.6%	273	3.2%
Multiple Body Parts	**200**	**4.9%**	**320**	**3.8%**
Neck, Including Throat	**72**	**1.8%**	**137**	**1.6%**
Body Systems	**79**	**2.0%**	**89**	**1.0%**
Part of Body - Unknown	**2**	**<0.1%**	**4**	**<0.1%**
Total	**4,041**	**100.0%**	**8,509**	**100.0%**

Data Source: WCB Data, Prepared by Data Development and Evaluation

Source of Injury or Disease

Source of injury or disease describes the object or substance that the worker came into contact with that resulted in an injury or disease. Four primary sources of injury accounted for more than half of the total lost-time claims and disabling injury claims from young workers in 2009. For lost-time claims these sources were persons, plants, animals and minerals, 22.6%, structures and surfaces, 16.0%, parts and materials, 13.1%, and containers, 11.9% (see Table 5.3). Injuries to workers of all ages[12] came from similar sources although the same four sources accounted for over 26.7%, 21.0%, 10.3% and 10.4% of the lost-time claims respectively.

In 2009, injuries caused by hand tools - nonpowered displayed the highest relative proportions[13] of lost-time claims and disabling injury claims for young workers than the average for all workers, 1.6 times higher for both. This was followed by other persons, plants, animals and minerals, 1.5 times higher than the average for all workers. Injuries caused by hand tools – powered displayed relative proportions 1.3 times and 1.4 times higher for lost-time claims and disabling injury claims. Parts and materials displayed relative proportions 1.2 and 1.4 times higher than the average for all workers.

[12] See the *Occupational Injuries and Diseases in Alberta 2009 Summary*.

[13] The relative proportion or number of times higher or lower compares the young workers' estimated lost-time injury claim frequency and estimated disabling injury claim frequency and proportion of injuries by each injury type, against the average claim rate and injury proportion for all workers in the province. A value equal to 1 indicates an equal probability or likelihood to the average. A value higher than 1 indicates an increased likelihood of this type of injury occurring, and a value less than one indicates a lower likelihood. See Appendix A for calculation details.

Table 5.3
Source of Injury or Disease - Young Workers, Alberta: 2009

Source of Injury	Lost-Time Claims	%	Disabling Injury Claims	%
Persons, Plants, Animals and Minerals	**915**	**22.6%**	**1,819**	**21.4%**
Person - Injured or Ill Worker	567	14.0%	1,298	15.3%
Person - Other Than Injured or Ill Worker*	177	4.4%	239	2.8%
Minerals - Metallic or Nonmetallic (except fuel)	16	0.4%	44	0.5%
Other Persons, Plants, Animals & Minerals	155	3.8%	238	2.8%
Parts and Materials	**530**	**13.1%**	**1,377**	**16.2%**
Structures and Surfaces	**645**	**16.0%**	**1,178**	**13.8%**
Containers**	**480**	**11.9%**	**1,034**	**12.2%**
Tools, Instruments and Equipment	**416**	**10.3%**	**1,021**	**12.0%**
Hand tools - Nonpowered	216	5.3%	565	6.6%
Hand tools - Powered	44	1.1%	110	1.3%
Other Tools and Equipments	156	3.9%	346	4.1%
Vehicles	**336**	**8.3%**	**600**	**7.1%**
Machinery	**263**	**6.5%**	**538**	**6.3%**
Furniture and Fixtures	**154**	**3.8%**	**286**	**3.4%**
Chemicals and Chemical Products	**66**	**1.6%**	**106**	**1.2%**
Other Sources	**190**	**4.7%**	**427**	**5.0%**
Source of Injury - Unknown	**46**	**1.1%**	**123**	**1.4%**
Total	**4,041**	**100.0%**	**8,509**	**100.0%**

* Person – other than injured or ill worker: classifies workplace injuries or illnesses inflicted by family members as well as non-family relations, including co-workers, former co-workers, and patients.
** Containers: classifies receptacles that are commonly used to hold, store or carry materials (examples: dishes, cups and glasses, luggage, etc.).
Data Source: WCB Data, Prepared by Data Development and Evaluation

Type of Event or Exposure

Type of event or exposure describes the incident or event that occurred at the time of the exposure that directly resulted in the injury or disease. The two most common types of events or exposures involving young workers were contact with objects and equipment, accounting for 32.6% of lost-time claims and 37.2% of disabling injury claims, and bodily reaction or exertion, 36.6% and 39.1% (see Table 5.4). Among workers of all ages[14], contact with objects and equipment represented 23.2% of lost-time claims and 27.9% of disabling injury claims submitted. Injuries and diseases caused by bodily reaction or exertion were more common and accounted for 42.7% and 44.3% of the total lost-time claims and disabling injury claims.

In 2009, injuries involving being struck by an object displayed the highest relative proportions[15] of lost-time claims and disabling injury claims for young workers than the average for all workers. Struck by object had relative proportions 1.5 times and 1.6 times higher than the average for all workers respectively. Other contact with object/equipment had relative proportions 1.5 times higher for both lost-time claims and disabling injury claims and caught in object displayed relative proportions 1.3 and 1.6 times higher than the average for all workers for lost-time claims and disabling injury claims.

[14] See the *Occupational Injuries and Diseases in Alberta 2009 Summary*.

[15] The relative proportion or number of times higher or lower compares the young workers' estimated lost-time injury claim frequency and estimated disabling injury claim frequency and proportion of injuries by each injury type, against the average claim rate and injury proportion for all workers in the province. A value equal to 1 indicates an equal probability or likelihood to the average. A value higher than 1 indicates an increased likelihood of this type of injury occurring, and a value less than one indicates a lower likelihood. See Appendix A for calculation details.

Table 5.4
Type of Event or Exposure - Young Workers, Alberta: 2009

Type of Event or Exposure	Lost-Time Claims	%	Disabling Injury Claims	%
Contact with Objects or Equipment	**1,319**	**32.6%**	**3,162**	**37.2%**
Struck by Object	728	18.0%	1,649	19.4%
Caught in Object	218	5.4%	636	7.5%
Struck against Object	231	5.7%	524	6.2%
Rubbed or Abraded	48	1.2%	130	1.5%
Other Contact with Object/Equipment	94	2.3%	223	2.6%
Bodily Reaction or Exertion	**1,480**	**36.6%**	**3,325**	**39.1%**
Overexertion	842	20.8%	1,870	22.0%
Bodily Reaction*	456	11.3%	970	11.4%
Repetitive Motion	81	2.0%	242	2.8%
Other Bodily Reaction/Exertion	101	2.5%	243	2.9%
Falls	**637**	**15.8%**	**1,107**	**13.0%**
Fall on Same Level	376	9.3%	691	8.1%
Fall to Lower Level	211	5.2%	317	3.7%
Other Falls	50	1.2%	99	1.2%
Exposure to Harmful Substances	**278**	**6.9%**	**412**	**4.8%**
Transportation Accidents	**215**	**5.3%**	**329**	**3.9%**
Assaults and Violent Acts	**89**	**2.2%**	**121**	**1.4%**
Assaults and Violent Acts by Person(s)	66	1.6%	81	1.0%
Other Assaults and Violent Acts	23	0.6%	40	0.5%
Fires and Explosions	**11**	**0.3%**	**14**	**0.2%**
Other Events or Exposures	**0**	**0.0%**	**1**	**0.0%**
Type of Event - Unknown	**12**	**0.3%**	**38**	**0.4%**
Total	**4,041**	**100.0%**	**8,509**	**100.0%**

* Bodily reaction: injuries or illnesses resulting from a single incident of free bodily motion which imposed stress or strain on some part of the body.

Data Source: WCB Data, Prepared by Data Development and Evaluation

Duration of Disability

Duration of disability[16] is intended to reflect the severity of the effects of occupational injury and disease as reflected by the number of days off work. The efforts of employers to introduce modified work programs also impact workdays lost.

In 2009, 50.9% of the lost-time claims from young workers had a duration of disability of five days or less compared to 39.9% for all workers[17]. Claims by young workers with a duration of 31 or more days represented 13.4% of all lost-time claims, compared to 21.9% for all workers in the province (see Table 5.5). Lost-time claims from workers of all ages typically had longer durations of absence, indicative of quicker recovery times for younger workers.

Table 5.5
Duration of Disability - Young Workers, Alberta: 2008 - 2009

Duration of Disability	2008		2009	
	Lost-Time Claims	%	Lost-Time Claims	%
1 - 5 Days	2,863	51.6%	2,057	50.9%
6 - 10 Days	810	14.6%	618	15.3%
11 - 15 Days	434	7.8%	289	7.2%
16 - 20 Days	248	4.5%	159	3.9%
21 - 30 Days	307	5.5%	223	5.5%
31 Days or more	718	12.9%	543	13.4%
Unspecified	170	3.1%	152	3.8%
Total	5,550	100.0%	4,041	100.0%

Data Source: WCB Data, Prepared by Data Development and Evaluation

[16] The duration of disability refers to the length of time, in days, for which the worker receives wage compensation from the WCB.
[17] See the *Occupational Injuries and Diseases in Alberta 2009 Summary*.

OCCUPATIONAL FATALITIES

In 2009, the WCB accepted seven fatalities from workers aged 15 to 24, accounting for 6.4% of all 110 fatalities in the province.

A WCB accepted occupational fatality is defined as the death of a worker, resulting from a work-related incident or exposure, which has been accepted by the WCB for compensation. The WCB classifies occupational fatalities into three general types:

Motor Vehicle Incidents

Motor vehicle incidents typically involve non-industrial vehicles operating on public roads in which the fatally injured worker was either the driver or a passenger. This type of occupational fatality also includes cases involving aircraft, train, helicopter and water vehicle crashes. Between 2005 and 2009, there were 15 motor vehicle incident fatalities accepted by the WCB from young workers aged 15 to 24 (see Table 6.1).

Workplace Incidents

Workplace incidents consist of cases in which the worker died at a worksite or as a result of injuries sustained at a worksite. This is the type of fatality that E&I typically investigates. Between 2005 and 2009, there were 26 workplace incident fatalities accepted by the WCB from young workers aged 15 to 24 (see Table 6.1).

Latent Workplace and Motor Vehicle Fatalities

Latent fatalities consist of workers who were involved in a workplace incident or exposure, or a motor vehicle incident that did not become a fatality until a much later date, often years later. These incidents were classified as occupational diseases. From 2002, these incidents are included with either motor vehicle or workplace incident categories in accordance to their original injury.

Usually, other contributing factors cause a latent fatality, although these contributing factors are the result of the initial injury or exposure. A motor vehicle incident where a worker received leg injuries requiring surgery is a good example of this. Complications during the surgery result in a blood clot causing a fatal stroke. The injury is classified latent because the original injury caused the requirement for surgery. Between 2005 and 2009, there were five latent workplace incident fatalities and one latent motor vehicle fatality accepted by the WCB from workers who were aged 15 to 24 when the original incident or exposure occurred.

Occupational Disease

Occupational disease fatalities consist mostly of recognized occupational disease, that is, disease known to be primarily or exclusively work-related such as asbestosis and coal workers' pneumoconiosis. This category also includes heart attacks suffered on the job. Occupational diseases are frequently diagnosed several years after the initial or crucial exposure to the toxic substance, and in such cases, it is difficult to determine when the fatal exposure occurred. *The occupational disease category, therefore, should not be interpreted to reflect present worksite hazardous conditions or exposures.*

Each year, the WCB accepts occupational disease fatality claims for compensation. Occupational disease fatality claims that were accepted in a particular year often include fatalities from prior years. Between 2005 and 2009, there were no occupational disease fatalities accepted by the WCB from workers who were aged 15 to 24 when the original incident or exposure occurred.

Table 6.1
Types of Occupational Fatalities Accepted by the WCB - Young Workers, Alberta: 2005 - 2009

Year	Motor Vehicle Incident		Workplace Incident		Total
	Number of Fatalities	%	Number of Fatalities	%	
2005	3	25.0%	9	75.0%	12
2006	2	40.0%	3	60.0%	5
2007	4	50.0%	4	50.0%	8
2008	3	33.3%	6	66.7%	9
2009	3	42.9%	4	57.1%	7
Total	**15**	**36.6%**	**26**	**63.4%**	**41**

Data Source: 2008 WCB Data, Prepared by Data Development and Evaluation

From 2005 to 2009, the WCB accepted 41 fatalities from workers aged 15 to 24. The Construction and Construction Trade Services sector had the most with 19 fatalities, the majority of these being workplace incidents (see Table 6.2). The Transportation, Communication and Utilities sector had 7 fatalities. Agriculture and Forestry reported zero young worker fatalities over the past five years. However, much of the agricultural sector falls outside the jurisdiction of the WCB and is not included in these figures.

Table 6.2
Occupational Fatalities Accepted by the WCB by Industry Sector - Young Workers, Alberta: 2005 - 2009

Sector	Motor Vehicle Fatalities	Workplace Incident Fatalities	Total	%
Mining and Petroleum Development	2	4	6	14.6%
Manufacturing, Processing and Packaging	1	1	2	4.9%
Construction and Construction Trade Services	4	15	19	46.3%
Transportation, Communication and Utilities	4	3	7	17.1%
Wholesale and Retail	1	1	2	4.9%
Public Administration, Education and Health Services	2	1	3	7.3%
Business, Personal and Professional Services	1	0	1	2.4%
Unspecified	0	1	1	2.4%
Total	**15**	**26**	**41**	**100.0%**

Data Source: WCB Data, Prepared by Data Development and Evaluation

From 2005 to 2009, young workers aged 20 to 24 accounted for 32 occupational fatalities or 4.6%. Workers aged 15 to 19 accounted for nine occupational fatalities or 1.3% (see Table 6.3). In 2009, workers aged 20 to 24 represented 10.2% of those in employment and workers aged 15 to 19, 5.8% of those in employment.

Table 6.3
Occupational Fatalities Accepted by the WCB by Age Group - Young Workers, Alberta: 2005 - 2009

Year	15-19 years	20-24 years	15-24 years
2005	2	10	12
2006	2	3	5
2007	0	8	8
2008	2	7	9
2009	3	4	7
Total	**9**	**32**	**41**

Data Source: WCB Data, Prepared by Data Development and Evaluation

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APPENDIX A: TERMS, DEFINITIONS AND FORMULAS

Lost-Time Claim

A lost-time claim (LTC) is a claim for an occupational injury or disease that causes the worker to have time away from work beyond the day of injury. Included are claims receiving reimbursement of full or partial lost wages due to occupational illness or injury, or payment for permanent loss of function.

Modified Work Claim

A modified work claim is a claim for an occupational injury or disease where workers had their normal work duties altered to enable them to remain working without losing time from work. Also included are claims where injured workers are helped back into the workplace with modified duties after time lost due to injury or disease.

Disabling Injury Claim

Disabling injury (DI) claims combine both the lost-time and modified work concepts to produce an overall figure where an occupational injury or disease disables the worker causing either time-lost from work or for their normal work duties to be modified.

Person-Years Worked

Person-years worked are estimates calculated from wage and payroll data provided by account holders to the WCB. Alberta Employment and Immigration uses data to estimate an average industry wage, and uses the average industry wage and employer payroll data to estimate person-years worked for each employer and each industry. One person-year is equivalent to one full-time worker working for one year, and can be assumed to equal 2,000 hours worked.

Lost-Time Claim Rate

The lost-time claim rate is calculated by dividing the number of lost-time claims by the person-year estimate, and multiplying the result by 100. The lost-time claim rate represents the probability or risk of an injury or disease to a worker during a period of one year's work, which will result in time lost from work. Comparisons of lost-time claim rates between industries, or between years, can be used to indicate increases, decreases, or differences in this risk.

$$\text{LTC Rate} = \frac{\text{Number of LTC's}}{\text{Person-years worked}} \times 100$$

Disabling Injury Rate

The disabling injury rate is calculated by dividing the number of disabling injury claims by the person-year estimates, and multiplying the result by 100. The disabling injury rate represents the probability or risk of a disabling injury or disease to a worker during a period of one year of work. The disabling injury rate is similar to the lost-time claim rate although it covers a broader range of injuries, including those that are less severe in nature (do not require time away from work). The rate represents the number of claims per 100 person-years worked and includes claims made for both lost-time and modified work.

$$\text{Disabling Injury Rate} = \frac{\text{Number of DI's}}{\text{Person-years worked}} \times 100$$

Duration (Days lost)

The duration of disability is the number of days following the injury or disease for which the worker was disabled and unable to perform normal work duties. This information is obtained for this report from data on compensation days paid on each claim from the WCB. Alberta Employment and Immigration obtains these data on March 31 of the year following the claim year, and does not update the information, even though many injured workers continue to be disabled beyond this date. As a result, the duration information reported here underestimates the true impact of lost-time injury and disease.

Duration Rate

The duration rate is calculated by dividing the number of workdays lost (disability days) by the person-year estimate, and multiplying by 100. The result is expressed as days lost per 100 person-years worked, and indicates, in part, the economic impact of occupational injury and disease. Duration rates are not recommended as reliable indicators of full economic cost. In addition, readers are warned that duration rates are highly unstable when based on only a few lost-time claims; it is recommended that the duration rate not be calculated based upon fewer than 30 lost-time claims.

$$\text{Duration Rate} = \frac{\text{Disability Days}}{\text{Person-years worked}} \times 100$$

Industry Coverage

About 80% of employed persons in Alberta are covered by WCB. This report focuses on all industry activity in Alberta covered by the WCB and by the provincial legislation for occupational health and safety. Most industry sectors are included but notable exceptions consist of the Government of Canada, and parts of the agriculture and finance sectors. Several professional groups (i.e. the teaching and medical professions) are also excluded as are some industries where WCB coverage is not compulsory.

WCB Accepted Fatality

An occupational fatality is the death of a worker which resulted from a work-related incident or exposure and which has been accepted by the WCB for compensation. A fatality is counted in the year it is accepted.

Fatality Rate

The fatality rate is calculated by dividing the number of accepted fatalities by the person-years worked estimate and multiplying the result by one million. The result is expressed as fatalities per million person-years worked. Fatalities that are found under the jurisdiction of the Government of Canada are excluded before the calculation of the fatality rate.

$$\text{Fatality Rate} = \frac{\text{Number of Fatalities}}{\text{Person-years worked}} \times 1{,}000{,}000$$

Number of Times Higher/Lower than the Provincial Average

The number of times higher/lower than the provincial average is used to compare the performance of young workers with all workers regarding a specific injury or disease. A number less than one indicates that the injury of the industries is lower than the provincial average; if equal to one it indicates the injury of the industries is the same as the provincial average and a number greater than one indicates that the injury of the industries is higher than the provincial average.

$$\frac{\text{Per cent of Total Claims for young workers} \times \text{Estimated LTC frequency rate for young workers}}{\text{Per cent of Total Claims for all workers} \times \text{Provincial LTC Rate}}$$

Where:

$$\text{Per cent of Total Claims for young workers} = \frac{\text{Number of LTCs for young workers (e.g. back injury)}}{\text{Total LTCs for young workers}} \times 100$$

$$\text{Per cent of Total Claims for all workers} = \frac{\text{Number of LTCs for all workers (e.g. back injury)}}{\text{Total LTCs for all workers}} \times 100$$

Labour Force Survey

The Labour Force Survey (LFS) is a household survey carried out monthly by Statistics Canada. The objectives of the LFS have been to divide the working-age population into three mutually exclusive classifications - employed, unemployed, and not in the labour force - and to provide descriptive and explanatory data on each of these categories. Data from the survey provide

information on major labour market trends such as shifts in employment across industrial sectors, hours worked, labour force participation and unemployment rates.

For the most part, annual LFS data has been analyzed alongside injury and disease information to aid the understanding of injury risk or frequency by worker type. The LFS uses a different industry classification from WCB, although there are similarities in structure. Where possible, the two data sources are used comparably and proportions (of totals) have been used to evaluate information generated from both sources. Using proportions attempts to overcome obvious distortions in the numbers in employment from both sources, although the impact on the proportions from industry coverage differences is unclear. In certain instances, monthly LFS micro-data files have been combined and used to produce proportion estimates for the whole year for particular sub-groups of the population.

For further information on the LFS, please see
http://www.employment.alberta.ca/BI/2599.html

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www.worksafe.alberta.ca

Occupational Health and Safety Contact Centre:

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http://www.employment.alberta.ca/SFW/2874.html

Certificate of Recognition (COR) Program:

http://www.employment.alberta.ca/SFW/334.html